

Amendments to the Specification

Please amend the Title to read as follows:

IMAGING DRUM DRIVING METHODS AND APPARATUS PROVIDING AUTOMATED
SETTING OF CONTROL PARAMETERS

Please amend the first full paragraph on page 3 to read as follows:

In a first aspect of the invention a method for accommodating different drum loads in an imaging device is provided. The method involves applying a drive stimulus to the drum load and monitoring the response of the drum load to the stimulus. A new value for at least one control parameter for driving the drum load is determined and the control parameter is ~~update~~ updated in accordance with the new value.

Please amend the paragraph spanning pages 4 and 5 to read as follows:

A schematic diagram of a prior art example of a drum rotational drive control system is shown in FIG. 1-A. A drum 10 for carrying an imaging media 12 is rotated about an axis 14 via motor drive 16. Drive is provided to drum 10 via a belt 18 and pulley 20. The actual rotational speed is sensed by an encoder 22 which may be a ~~commonly available~~ commonly-available optical shaft encoder. The output of the shaft encoder 22 is connected to drum controller 24. Drum controller 24, via servo amplifier 26, provides drive current to motor 16. Servo amplifier 26 provides an interface between drum controller 24 and motor 16, since the controller will typically comprise logic circuitry, incapable of delivering the high power required by the motor 16. Drum controller 24 may also be interfaced to a system controller 28 or there may be a single system controller ~~[[,]]~~ in which the functions of drum controller 24 and system controller 28 are merged ~~into a~~

~~single system controller.~~ The system controller 28 typically manages the functions of the imaging system including, for example, issuing a command to rotate the drum at some pre-determined speed.

Please amend the first full paragraph on page 9 to read as follows:

Typically, when a drum load change is made the imaging system controller will be made aware that the change has occurred. The system is programmed to perform the method of FIG. 3 2 before attempting to spin the changed load under closed loop control. This method of characterizing a load is commonly referred to as parameter or system identification.

Please amend the paragraph spanning pages 9 and 10 to read as follows:

In another embodiment of the method of the present invention, the parameters may be determined under closed loop operation using an adaptive control algorithm. This method is outlined in the process flowchart in FIG. 4 . In step 62 the system is put under closed loop control i.e. the encoder signal is constantly fed back to the drum controller, which in turn corrects the drive conditions to achieve the desired rotation. In step 64 a stimulus is applied to the drum - this may be as simple as an instruction from system controller 28 to spin the drum load to some pre-determined speed. Steps 64 to 70 are similar to those described for the FIG. 3 2 embodiment but in this case the control system is under closed loop control. Another difference is that the process is continuous and steps 64 - 70 repeat, at least while the determination is being done. This process is well known in the art as adaptive control.